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Forest  
Service

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US EPA

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1099 W. Front Street  
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RE: Agencies' Comments on Copper in Small Mammals Memo

Dear Alan;

The Agencies have reviewed the memorandum regarding evaluation of copper concentrations reported for small mammal tissue samples from Smoky Canyon Mine. Comments are enclosed.

Please respond to these comments by December 29, 2017.

If you have any questions, please contact me at 208-236-7572.

Sincerely,

ARTHUR BURBANK  
Remedial Project Manager

Enclosure

cc: Jeffery Hamilton; Simplot, Pocatello  
Ron Quinn; Simplot, Smoky Canyon Mine  
Burl Ackerman; Simplot, Boise  
Fred Charles; Formation Environmental, Boulder  
Sandi Fisher; USFWS, Pocatello  
Colleen O'Hara; BLM, Pocatello  
Brady Johnson; IDEQ, State Office  
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Susan Hanson; Shoshone-Bannock Tribes, Fort Hall  
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# Agencies' Comments on the Evaluation of Copper in Small Mammals at Smoky Canyon Mine

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## General Comments

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- GC-1** Overall the document provides a good review of the potential causes for the elevated levels of copper in mammal tissue samples. However, there are some inconsistencies that need to be addressed (see specific comments).
- GC-2** The conclusion section should clearly state which samples are considered anomalous and will not be considered further in the analysis.

## Specific Comments

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- SC-1** **Laboratory Methods Section, Page 2, first bullet.** The text indicates that 108 small mammal specimens were collected in 2010; however, Table 1 shows results of 107 small mammals collected in 2010. Please revise the Table 1 or the text.
- SC-2** **Laboratory Methods Section, Page 2, second bullet.** The number of locations of 2016 sampling shown in Table 1 (10 locations) differs from the number of locations stated in the Laboratory and Methods Section (11 locations). Please revise.
- SC-3** **Laboratory Methods Section, Page 2, last paragraph, third sentence.** The document states: "The lab had also assigned a flag of "N" to copper results in this SDG, indicating matrix spike percent recovery was outside control limits." However, the "N" qualifier was not assigned to any of the samples in Table 1. Add the qualifier "N" to Table 1 or add a note clarify that the validation qualifier reason presented in Table 1 (Matrix spike % recovery > control limit) corresponds to the qualifier "N" not qualifier "J".
- SC-4** **Data Evaluation Section, Page 3, first paragraph, fifth sentence and page 8, first bullet.** The document compares the maximum concentration of copper in soil to EPA's Ecological Soil Screening Levels (Eco-SSLs) for mammalian herbivores. Were all the small mammals collected at the site herbivores (i.e., voles)? If deer mice were also collected, then the Eco-SSL for insectivorous mammals (49 mg/kg) should also be used as comparison value.
- SC-5** **Data Evaluation Section, Page 3, first paragraph, last sentence.** This statement is not completely accurate because copper concentrations were not analyzed in other potential exposure diet items (e.g., mushrooms, invertebrates, slugs, snails, bird eggs, carrions) that may be available for small mammals at the site. Please change this sentence to "These analyses indicate that copper results in small mammal tissues are not related to soil or vegetation copper concentrations at the site."
- SC-6** **Data Evaluation Section, Page 3, second paragraph, last sentence.** This statement is not completely accurate because copper concentrations were not analyzed in other

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potential exposure diet items (e.g., mushrooms, invertebrates, slugs, snails, bird eggs, carrions) that may be available for small mammals at the site. Please change this sentence to "These analyses indicate that copper results in small mammal tissues are not related to soil copper concentrations at the site."

- SC-7 **Data Evaluation Section, Page 3, second paragraph, final sentence.** Please clarify whether co-located terrestrial invertebrate data is available. If so, please provide an R-squared value for this exposure pathway and summarize. If there is no terrestrial invertebrate data available, then this data gap needs to be acknowledged as an uncertainty in the analysis and Memorandum.
- SC-8 **Data Evaluation Section, Page 3, fourth paragraph, first sentence.** Please revise the sentence to "As noted above, inter-laboratory re-analysis by ACZ was also conducted for comparison with results from analysis by ALS."
- SC-9 **Literature Review Section, page 4, first paragraph.** The document provides a summary of a literature review for copper concentration data in small mammal tissues at contaminated sites. It specifically mentions that some are from the Idaho phosphate mining area. Why wouldn't this information also include the data collected for Simplot's other regional phosphate mines (e.g., Conda Mine)? This information is relevant and should also be summarized in the document.
- SC-10 **Literature Review Section, Page 4, third paragraph.** Please describe the type of bait used to attract small mammals and discuss whether small mammal bait has the potential to be a source of copper contamination, or whether this remains an uncertainty.
- SC-11 **Summary of Findings, Page 8, second bullet.** If there has not been an analysis of co-located terrestrial invertebrates including a regression analysis with small mammal tissue, then this data gap needs to be acknowledged as an uncertainty in the Memorandum and in the 'Summary of Findings'. Further, this would also indicate that results for small mammals may yet be Site-related. Therefore, revise the bullet accordingly.
- SC-12 **Summary of Findings, Page 9, first bullet.** Please clarify if future verification of laboratory recording errors will take place. If not, please rephrase the paragraph.
- SC-13 **Summary of Findings, Page 9, second bullet.** For clarity, please state the sampling locations of the highest values of small mammal copper concentrations in 2010 and 2016 identified as outliers at high confidence levels.